Our mahogany chest of drawers is based on the type traditionally used by craftsmen to store precision tools. However, you don't need to own a micrometer to make good use of it. With its six felt-lined drawers and locking top compartment, it's the ideal place to store or display jewelry, collectibles, memorabilia and all those little things that never seem to find a home of their own.

While the construction of the chest isn't difficult, its small size means extra care must be taken in all stages—especially the fitting of the drawers. We planed most of the stock to ⅝ in. thick, and used ¼- and ½-in. wood for the panels and drawer sides. Lumber in these sizes isn't usually stocked by suppliers—if you don't have a planer, ask your dealer or a local shop to reduce thicker material.

When selecting stock, look for consistent color and grain pattern. If you have some wood that varies in appearance, use it in the case bottom or drawer sides where the difference will not be too visible. Rip and crosscut all parts to finished dimension. Be sure to mill some extra stock to use for testing saw and router setups.

CASE JOINERY

Mount a ¼-in.-dia. bit in a router table and cut the dadoes in the chest sides for the joints with the bottom panel ❶. Then, install a dado blade in your table saw, clamp a board to the saw fence, and cut the rabbets on the ends of the bottom shelf ❷ and front rail. Rout a stopped dado in each chest side for the front-rail joint and square the ends with a chisel ❸.

The joints for the middle and top shelves, as well as those for the partition, are also stopped dado joints. The easiest way to cut these is to use a router with a straight bit. Make a guide for the router by screwing a piece of straight ½-in.-thick stock to a wide base of ¼-in. plywood. Mount a ½-in.-dia. bit in the router and run the router against the ½-in. stock to trim the ¼-in. panel. Then, use this jig to position the router by aligning the cut edge of the panel with the dado layout line and clamping it in place ❹. Square

1 Use a ¼-in. bit and router table to cut the dadoes in the chest sides for the bottom panel.

2 Cut the rabbet in the bottom panel with a dado blade. The blade extends into board clamped to fence.

3 After routing the stopped slots for the front-rail joints, use a sharp chisel to square the ends.

4 Clamp a shopmade router edge-guide jig to the side panels to cut the stopped dadoes for the shelves.

5 After routing the panel slots, cut the tenon cheeks with a dado blade. Board on fence acts as a stop.

6 Dry assemble the back and lid parts to test fit. Sand the panels to 220 grit before actual assembly.

7 Clamp the drawer guides to the sides. Bore and countersink screw-holes, and secure the guides.

the ends of the stopped dadoes with a sharp chisel. Then, cut the notches at the front corners of the center shelf and partition with a backsaw.

FRAME AND PANEL WORK

Locate the mortises for the back and lid joints, and rout them with a ¼-in.-dia. bit. Since the rails and stiles are narrow, clamp a second piece of wood to the side of the workpiece to provide support for the router. Use a chisel to square the mortise ends.

Set up the router table with a ¼-in. bit and cut the grooves in the stiles, rails and mullions. Then, use a dado blade to cut the tenon cheeks for the joints ❺. Cut the haunched tenon shoulders on the lid stiles and back-panel rails with a dovetail saw, and prepare ¼-in. stock for the panels. Check the fit of all the frame and panel joints ❻, and then sand the panels to 220 grit.

To assemble the back, first apply glue to all mortises and spread a light coat of glue on the tenon cheeks. Take care to keep glue from the panel grooves so the panels are free to move with changes in humidity. Join the mullions to the bottom rail and then slide the panels into position. Position the top rail over the tenon ends, then slide the stiles onto the rail tenons. Apply clamps and check that the assembly is square. Let the glue cure for at least 1 hour, and assemble the chest lid in the same way.

CASE ASSEMBLY

It's best to cut the lock mortise before assembling the case. Begin by clamping the lock to the inside face of the rail. Use a knife to trace the outline of the lock, and extend the marks across the top of the rail to outline the mortise. Then, use a light-duty trim router to shape a 1/16-in.-deep mortise for the lock plate. Cut to within 1/16 in. of the layout lines and finish with a sharp chisel. Next, mark the outline of the deep mortise for the lock body, rout out most of the waste and trim to the line with a chisel. Then, mark the location of the keyhole opening. Bore a ¼-in.-dia. hole for the top of the opening and use a chisel to finish the cutout.

Rip and crosscut the drawer guides to size, and then bore and countersink pilot holes for No. 6 screws. Note that you need to offset the screwholes for the guides on either side of the partition to keep the screws on one side from running into those on the opposite side. Lightly sand the inside surfaces of the chest sides and partition to 220 grit. Use spring clamps to hold each guide in place while you bore pilot holes and fasten the guides ❼.

Spread glue in the dadoes in the top and center shelves and on the ends of the partition. Join the partition to the shelves and clamp the parts ❽. Next, glue and clamp the side/shelf, shelf/rail and side/rail joints ❾, and scrape off any excess glue before it hardens.

Apply glue to the back edges of the

MATERIALS LIST

KEY	QTY.	SIZE	DESCRIPTION
A	2	⅛ x 10⅛ x 14⅛"	mahogany (side)
B	1	⅛ x 10⅛ x 21¼"	mahogany (bottom)
C	1	⅛ x 10⅛ x 21⅛"	mahogany (shelf)
D	1	⅛ x 9⅛ x 21⅛"	mahogany (shelf)
E	1	⅛ x 4⅞ x 10⅛"	mahogany (partition)
F	1	⅛ x 3 x 21⅛"	mahogany (top rail)
G1	1	⅛ x 2 x 19½"	mahogany (back rail)
G2	1	⅛ x 3 x 19½"	mahogany (back rail)
H	2	⅛ x 2½ x 22½"	mahogany (lid rail)
I	2	⅛ x 2 x 14⅛"	mahogany (back stile)
J	2	⅛ x 2½ x 7¾"	mahogany (lid stile)
K	8	⅛ x 2 x 10⅛"	mahogany (mullion)
L	2	⅛ x 2 x 7¾"	mahogany (mullion)
M1	2	¼ x 5¾ x 10"	mahogany (panel)
M2	1	¼ x 5⅛ x 10"	mahogany (panel)
N1	2	¼ x 5⅛ x 6⅛"	mahogany (panel)
N2	1	¼ x 5⅛ x 6⅞"	mahogany (panel)
O	12	⅛ x ½ x 9¼"	maple (guide)
P1	2	⅛ x 2 x 9⅝"	mahogany (face)
P2	2	⅛ x 2¼ x 9⅝"	mahogany (face)
P3	1	⅛ x 2½ x 9⅝"	mahogany (face)
P4	1	⅛ x 3 x 9⅝"	mahogany (face)
Q1	4	½ x 2 x 10⅛"	mahogany (side)
Q2	4	½ x 2¼ x 10⅛"	mahogany (side)
Q3	2	½ x 2½ x 10⅛"	mahogany (side)
Q4	2	½ x 3 x 10⅛"	mahogany (side)
R1	2	⅛ x 1½ x 9⅛"	mahogany (back)
R2	2	⅛ x 1¼ x 9⅛"	mahogany (back)
R3	1	⅛ x 2 x 9⅛"	mahogany (back)
R4	1	⅛ x 2½ x 9⅛"	mahogany (back)
S	4	¼ x 9⅛ x 9⅛"	plywood (bottom)
T	2	¼ x 9⅛ x 20"	plywood (bottom)
U	48	#4 x ¾" No. 6	fh woodscrew
V*	4	brass corner, Woodcraft No. 130415	
W**	2	2" hinge, Whitechapel No. 207-HPIP	
X**	1	lock, Whitechapel No. 176L1F	
Y**	1	escutcheon, Whitechapel No. 188EV7	
Z**	1	lid stay, Whitechapel No. 204LSC1	
AA**	8	knob, Whitechapel No. 96K5K4P	

MISC: 120-, 220- and 320-grit sandpaper; 4/0 steel wool; Behlen Solar-Lux Medium Brown Mahogany stain (No. 847-459) and Behlen Solar-Lux retarder (No. 847-583) available from Woodworker's Supply, 800-645-9292; www.woodworker.com.

* Woodcraft Supply Corp., 800-535-4482, www.woodcraft.com.

** Whitechapel Ltd., 307-739-9478; www.whitechapel-ltd.com.

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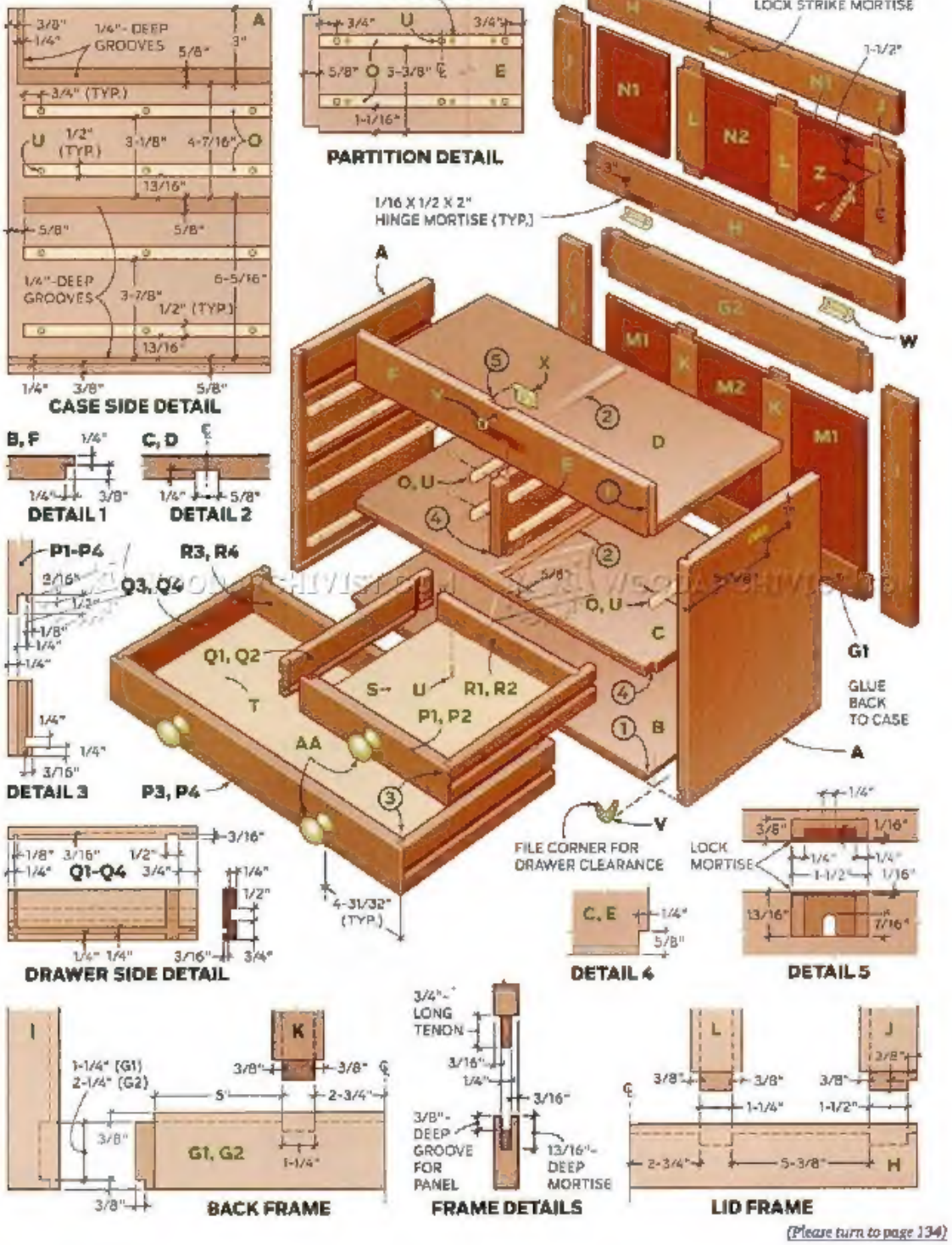
MAHOGANY CHEST

11-1/4" DEEP X 15" HIGH X 22-1/2" WIDE



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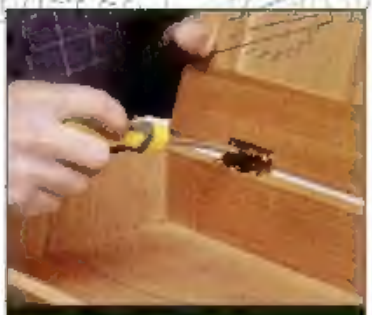
8 Begin case assembly by joining the partition to the top and center shelves. Clamp until glue sets.

9 Apply glue to the dado/rabbet joints, join the sides to the shelves and rail, and install clamps.

10 Use a ¼-in. slot cutter in the router table to begin the drawer-face locking joints.

11 Install a ½-in. straight bit in the router table and cut the grooves for the drawer guides.

12 After assembling the drawers, cut bottoms to size, slide them into place and secure with screws.



13 Use a router and chisel to cut the hinge mortises. Then, secure the hinges to the case and lid.

chest sides and on the top and bottom shelf, and clamp the back to the case.

DRAWER CONSTRUCTION

We built the drawers using a locking joint between the face and sides, and a dado joint at the back.

To cut the joint in the drawer fronts, first install a ¼-in. slot cutter in your router table. Adjust the height of the bit and use a miter gauge with backer fence to cut a slot in both ends of each piece (J). Then, use your table saw to make the second cut on the inside of the face to yield the required profile.

Install a ½-in. straight bit in the router table and cut the grooves in drawer sides for the guide strips (I). Use a ¼-in. straight bit to rout the drawer-bottom grooves in the face and sidepieces.

Using a crosscut blade in the table saw, cut ⅛-in. grooves in the sides for the face joints. If the blade kerf is less than ⅛ in., make two passes to cut each groove. Then, switch to a dado blade to cut the ½-in.-wide dadoes for the backs.

Spread glue on all joints for one of the drawers and assemble the box. Clamp the joints and check that the drawer is square. Repeat the process for each drawer. Cut ¼-in. plywood to size for the drawer bottoms. Slide a bottom into place on each of the drawers (K) and fasten them with screws driven into the drawer backs. Bore holes for the drawer pulls, temporarily mount the pulls and test fit the drawers. If they're too snug, open the side grooves by carefully sanding. Apply wax to both the guides and drawer sides after finishing to help the drawers slide smoothly.

Lay out the hinge mortises in the chest back and lid, and use a trim router and chisel to cut them. Then attach the lid (L). Temporarily mount the lock and position the strike on it. Lightly close the lid to make an impression of the strike pins on the lid. Remove the lid and use a knife to outline the strike mortise. Cut the mortise with a chisel, remount the lid and check the operation of the lock. Install the lid restraint chain, and add the brass corners, filing the two front ones to provide drawer clearance.

FINISHING

First sand all parts to 220 grit. To achieve the red-brown color of our chest, apply a coat of Behlen Solar-Lux Medium Brown Mahogany stain. You can apply it with a brush or rag, but it dries very quickly. To prevent lap marks, add Solar-Lux dye retarder. Let the stain dry overnight.

After the stain, we applied three coats of Waterlox Original Sealer/Finish. Apply the finish, allow it to soak in for about 20 minutes and wipe away the excess. After overnight drying, lightly sand with 320-grit sandpaper and remove the dust. Apply the second and third coats using the same technique. When the final coat is dry, burnish with 4/0 steel wool and polish with a soft cloth.

Replace the hardware and install the lock escutcheon. We lined our drawers with green felt. Cut the material to size with scissors or a utility knife. Place a small strip of double-sided tape in the corners of each drawer bottom and install the felt. PW